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| APPLICATION NO.                                                                                               | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.             | CONFIRMATION NO.            |
|---------------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------------------|-----------------------------|
| 10/588,998                                                                                                    | 08/10/2006  | Hisashi Kizuka       | 1034232-000042                  | 4614                        |
| 21839 7590 11/02/2007<br>BUCHANAN, INGERSOLL & ROONEY PC<br>POST OFFICE BOX 1404<br>ALEXANDRIA, VA 22313-1404 |             |                      | EXAMINER<br>LISTVOYB, GREGORY   |                             |
|                                                                                                               |             |                      | ART UNIT<br>1796                | PAPER NUMBER                |
|                                                                                                               |             |                      | NOTIFICATION DATE<br>11/02/2007 | DELIVERY MODE<br>ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com  
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**Office Action Summary**

Application No.

10/588,998

Applicant(s)

KIZUKA ET AL.

Examiner

Gregory Listvoyb

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 August 2006.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-25 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/10/2006.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitation "the solvent" in line 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 12-25 rejected under 35 U.S.C. 102(b) as being anticipated by Irizato et al (US 5986042) herein Irizato.

Irizato discloses a polyimide compound (based on succinimide polymer) crosslinked with polyamine (based on lysine) which is soluble in the solvent containing aprotic polar organic solvent (N,N-dimethylformamide (DMF), (see Column 90, line D1 for all limitations of Claims 1-5) at concentration higher than 5% at room temperature, meeting the limitations of claims 1-5, 12 and 15-25.

Note that Irizato does not explicitly disclose that cross-linked polyimide compound is soluble in DMF-containing solvent. However, he teaches that than Methanol (precipitant) was added it disintegrated the reaction product of lysine and succinimide polymer. Therefore, the cross-linked compound existed in the solvent in integrated (soluble) form.

Regarding Claims 13 and 14, Irizato discloses that the above composition can be used as a cosmetic composition or external preparation, such as part of shampoo, moisturizer, etc (see column 84, line 65).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Irizato.

Irizato discloses a polyimide compound (based on succinimide polymer) crosslinked with polyamine (based on lysine) which is soluble in the solvent containing

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aprotic polar organic solvent (N,N-dimethylformamide (DMF), (see Column 90, line D1 for all limitations of Claims 1-5) at concentration higher than 5% at room temperature.

Regarding Claims 6-12, Irizato discloses a polyimide compound obtained by dehydration and condensation of amino acid (L-aspartic acid) in the presence of polyamine (Lysine) and protonic acid (Hydrochloric acid) (see comparative Example 4).

At the embodiment above Irizato does not disclose the use of DMF and 0.05-10%mol of Lysine.

Irizato discloses use of DMF at another embodiment of the invention (see discussion above). Due to a better solubility of the above compound in DMF, it would be obvious to perform the crosslinking reaction in this solvent, subsequently providing homogeneous conditions, which leads to even distribution of Lysine among L-aspartic acid fragments. It would result better water-absorbing properties of the finished product (see Column 97, line 30).

Therefore, it would have been obvious to a person of ordinary skills in the art to use DMF as a solvent in preparation of polyimide compound in order to increase water-absorbing properties of the finished product.

Regarding limitations of Claim 8, Irizato teaches 0.1-50%, preferably 0.5-10% mol of cross-linking agent (see Column 15, line 65).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory Listvoyb whose telephone number is (571) 272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Listvoyb  
Examiner  
Art Unit 1796

GL  
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RABON SERGENT  
PRIMARY EXAMINER

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